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Cotton Fiber and Processing Test Results

CROP of

1973

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**Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38117 January 4, 1974**

This is the tenth of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. These reports are published by the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, Memphis, Tennessee.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton testing laboratories of the Agricultural Marketing Service, USDA, report that fibers from the Southwest short staple samples tested, to date, are coarser and stronger than through the same period a year ago. Yarns spun from these samples show lower appearance grades. Yarn imperfections were fewer in samples tested to date. Average spinning potential yarn number is lower this year.

Averages for all medium staple samples through December 28, 1973 show longer, and coarser fibers than a year ago. Yarns spun from these samples show lower appearance grades.

Southeastern medium staple samples tested show coarser and weaker fiber strength at 1/8 inch gage. Shirley Analyzer nonlint content is higher than a year ago. Yarns spun from these samples show a higher imperfection count and lower average spinning potential yarn number.

South Central medium staple samples are longer, coarser and have weaker fiber strength at 1/8 inch gage than a year ago. Yarn skein strength is lower, as is average spinning potential yarn number.

Southwest medium staple samples have approximately the same fiber qualities as a year ago. Picker and card waste is less this season and yarn appearance grades are lower. Average spinning potential yarn number is lower than last season at this time.

Medium staple samples from the West show fibers to be longer and stronger at both zero gage and 1/8 inch gage tests. Yarns spun from these samples are stronger than a year ago. Appearance grades are lower than at the same period last season. Average spinning potential yarn number is higher.

No additional long staple lots were tested during this report period.

Extra long staple, American Pima, samples from the West are coarser and stronger at both zero gage and 1/8 inch gage test than last season. Shirley Analyzer nonlint content is higher this season. Yarns spun from these samples have higher appearance grades and fewer imperfections.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 28, 1973 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.	
		2.5% span	50/2.5 unif.		Pct.	Rdg.			Mpsi	Zero gage	1/8" gage		Skein str.
				Inches			Pct.	G/tex				Pct.	
		No.											22s
<u>Short Staple:</u>													
Southwest													
1972	40	0.97	45	4.2	81	21	3.4	6.4	94	118	26	46	
1973	49	0.97	46	4.5	84	21	3.3	6.3	92	110	17	42	
<u>Medium Staple:</u>													
Southeast													
1972	59	1.07	45	4.3	83	23	3.0	6.1	104	103	16	66	
1973	50	1.08	46	4.6	82	22	3.6	6.0	102	106	21	61	
South Central													
1972	158	1.08	46	4.3	83	23	2.8	6.2	105	109	20	64	
1973	159	1.10	45	4.5	82	22	3.1	5.8	101	107	19	61	
Southwest													
1972	39	1.06	45	4.3	83	22	3.3	6.4	100	119	24	61	
1973	42	1.07	45	4.3	82	22	2.9	5.7	98	99	24	57	
West													
1972	60	1.09	46	4.4	90	24	2.6	5.5	110	121	17	66	
1973	56	1.13	46	4.5	94	26	2.3	5.4	119	103	18	69	
U. S. Average													
1972	316	1.08	45	4.3	85	23	2.9	6.0	104	112	19	64	
1973	307	1.10	46	4.5	84	23	3.0	5.7	104	105	20	62	
Significant dif- ference <u>2/</u>													
		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 28, 1973

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results									
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality				SPY			
		Span	Unif		Zero gage	1/8" gage				Strength carded	Appearance carded	Imprfctns combed	card comb				
				In.			Pct.	Rdg.	Mpsi					G/tx	Pct.	Lbs.	Indx
Long Staple:																	
Southeast																	
1972		1.12	44	4.3	85	24	3.6	8.5	16.9	106	123	102	117	24	10	68	
1973		1.12	45	4.6	82	23	3.9	8.7	16.9	104	120	117	124	15	7	66	
South Central																	
1972	4	1.16	44	4.0	88	24	4.2	8.8	16.0	116	131	100	110	20	11	75	
1973	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	127	19	8	64	
West																	
1972	15	1.17	44	3.6	91	25	2.5	7.2	15.6	126	145	91	100	26	13	86	
1973	11	1.16	45	3.8	92	27	2.4	7.2	14.9	136	152	99	109	18	10	92	
U. S. Average																	
1972	38	1.14	44	4.0	88	24	3.4	8.0	16.3	116	133	97	109	24	11	76	
1973	33	1.14	45	4.3	86	24	3.4	8.2	16.3	115	132	111	120	16	8	74	
<div>Array</div> <div>American Pima</div> <div>50's Combed Yarn</div>																	
Extra Long Staple:																	
West																	
1972	16	1.45	32	3.6	98	32	2.6	7.7	17.9		63		114		3		
1973	12	1.46	31	3.8	100	33	3.1	7.7	17.9		66		123		1		
Significant Difference $\frac{2}{2}$																	
		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	5	5	2	2	2	3	

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification				Fiber Test Results						Processing Test Results - Carded Yarns																
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potential		
No	Grade	Stple		2.5% span	Unif		Zero Gage	1/8" Gage	Pct	Pct	Gra	Yel	Waste	8s or 74 tx	22sor 27 tx	Lbs	Pct	8s or 74 tx	22s or 27 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx			
			32s	In	Pct	Rdg	Mpsi	G/tex			No	No	Pct			Lbs	Pct			No	No	No	No			
SOUTHWEST AREA																										
CENTRAL TEXAS																										
ITASCA																										
3 SLM LT SP	42	31		1.00	44	4.8	84	19	6.7	3.4	4	3	6.5			281	84	7.3	6.2	120	120	21	14	39		
NORTHWEST TEXAS																										
ANSON																										
3 SLM LT SP	42	31		0.95	47	4.5	80	19	8.4	2.6	2	3	5.9			305	92	6.8	7.0	130	110	23	14	44		
HALE CENTER																										
2 MID	31	30		0.90	47	4.3	82	20	6.6	2.7	1	3	5.7	1		278	82	7.6	6.3	120	110	15	11	33		
HART																										
2 SLM LT SP	42	30		0.90	47	4.0	85	21	6.1	4.3	2	4	7.9	1		279	84	7.5	6.2	120	110	26	22	37		
LENORAH																										
3 MID	31	30		0.96	45	4.2	82	18	6.4	2.3	1	3	5.8			279	87	7.4	6.2	130	120	16	9	37		
MEADOW																										
2 SLM	41	31		0.98	46	4.3	85	22	6.9	3.2	2	3	5.4	1		313	98	8.2	7.0	120	110	17	15	50		
PADUCAH																										
1 MID LT SP	32	31		1.01	45	4.6	82	22	7.5	3.0	2	3	5.3			287	89	7.9	6.9	110	110	29	17	45		
RULE																										
2 SLM	41	32		1.03	47	4.7	82	23	7.2	3.0	2	3	5.3			299	95	7.9	7.0	120	100	23	20	47		
STAMFORD																										
3 SLM	41	32		1.03	47	4.7	80	19	7.7	2.8	2	3	5.1			309	96	7.9	6.7	130	130	13	9	47		
TULIA																										
2 MID LT SP	32	30		0.91	48	4.2	88	21	6.4	3.1	2	4	6.3			284	85	7.4	6.2	120	120	17	13	33		
OKLAHOMA																										
CARNEGIE																										
1 MID LT SP	32	30		0.94	45	4.8	77	20	7.4	1.6	2	4	3.9			263	81	7.4	6.0	120	120	15	12	35		
GOTEBO																										
1 MID LT SP	32	31		0.94	46	4.9	85	20	7.1	2.4	2	4	5.2			292	90	8.2	6.8	130	110	13	11	43		

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade	Stple	32s	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- ial	
				2.5% span	Unif.		Zero Gage	1/8" Gage			Mpsi	G/tex		Pct	Pct	Gra	Yel	22s or 27 tx	50s or 12 tx	Pct	Pct		22s or 27 tx
SOUTHEAST AREA																							
ALABAMA																							
CULLMAN																							
41	33	0.99	45	4.8	82	21	6.8	4.0	2	3	5.1	80 PERCENT	82	22	6.0	4.3	120	90	12	9	42		
HUNTSVILLE																							
41	33	1.01	47	4.8	80	21	7.6	2.8	2	3	5.5	85 PERCENT	92	24	6.4	4.3	110	90	15	10	53		
SYLACAUGA																							
41	34	1.03	46	4.1	79	21	7.9	3.3	2	2	4.8	100 PERCENT	100	28	6.9	4.3	100	80	19	16	56		
TUSKEGEE																							
41	34	1.09	45	4.8	81	20	7.4	3.1	2	3	4.2	95 PERCENT	94	27	6.2	4.5	100	80	17	13	60		
TYLER																							
51	35	1.10	46	4.6	80	22	6.5	4.8	3	2	6.1	95 PERCENT	100	32	6.4	4.7	100	70	21	17	56		
NORTH CAROLINA																							
SHELBY																							
41	34	1.05	47	4.7	88	22	6.3	3.5	2	3	5.5	100 PERCENT	92	22	5.7	3.6	110	90	13	12	53		
SOUTH CAROLINA																							
MULLINS																							
41	35	1.12	48	4.9	77	21	7.5	2.7	2	2	4.6	100 PERCENT	99	31	6.7	4.5	110	80	12	8	66		
ST MATTHEWS																							
51	34	1.07	44	4.3	80	21	6.7	4.8	3	2	6.1	100 PERCENT	94	28	5.9	4.1	90	70	23	20	60		
SOUTH CENTRAL AREA																							
ARKANSAS																							
DUMAS																							
41	35	1.08	47	5.1	82	22	7.0	3.2	3	2	4.8	100 PERCENT	95	28	5.9	4.2	100	90	10	9	52		
EUDORA																							
41	34	1.13	45	4.5	78	22	7.6	3.2	2	2	4.8	100 PERCENT	104	34	7.1	5.2	90	70	20	12	65		
HELENA																							
41	35	1.12	45	4.6	78	22	7.7	3.6	2	2	5.7	98 PERCENT	104	34	6.7	4.9	100	80	17	12	63		
HELENA																							
51	35	1.11	46	4.2	82	22	7.3	3.9	3	2	6.3	100 PERCENT	100	31	6.5	4.6	100	80	21	17	61		

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade	Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent'ial		
				2.5% span	Unif.		Zero Gage	Mpsi G/tex			Pet	Pet		Gra	Yel	Lbs	Lbs	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx	50s or 12 tx
SOUTH CENTRAL AREA--(Continued)																								
ARKANSAS--(Continued)																								
HUGHES																								
3 LM	51	35	1.13	48	4.4	80	22	7.5	4.8	3	2	6.6	100 PERCENT	98	31	6.6	4.6	90	70	28	21	58		
LEPANTO																								
3 SLM	41	35	1.13	44	3.8	82	22	7.9	3.5	1	2	5.5	100 PERCENT	108	34	7.1	5.0	110	80	17	15	67		
NEWPORT																								
3 SLM	41	35	1.10	47	4.9	83	21	7.1	2.8	1	2	4.9	95 PERCENT	98	29	6.1	4.2	110	90	9	8	53		
PROCTOR																								
3 SLM	41	34	1.09	44	4.7	80	21	7.1	3.2	2	3	6.1	100 PERCENT	84	23 1/2	6.0	4.5	90	80	19	15	47		
WALNUT RIDGE																								
3 SLM	41	34	1.08	45	4.0	78	21	7.4	2.5	1	3	5.2	75 PERCENT	95	28	6.1	4.3	110	80	15	9	58		
WYNNE																								
3 SLM	41	34	1.07	47	5.4	79	23	8.4	2.9	2	3	5.2	100 PERCENT	98	29	6.5	4.3	110	90	12	10	57		
LOUISIANA																								
LAKE PROVIDENCE																								
3 LM	51	34	1.08	44	4.0	79	21	7.2	3.5	3	2	5.7	100 PERCENT	94	28	6.1	4.2	90	70	24	19	58		
SHREVEPORT																								
3 SLM	41	35	1.11	42	3.5	78	20	8.5	3.8	1	3	4.8	100 PERCENT	96	32	6.6	5.2	90	60	25	20	63		
SICILY ISLAND																								
3 LM	51	34	1.10	46	4.9	78	21	7.2	3.7	4	3	6.4	100 PERCENT	92	27	6.3	4.5	100	80	21	14	52		
MISSISSIPPI																								
BRUCE																								
3 SLM	41	34	1.06	45	4.6	79	21	8.0	2.8	2	2	4.5	90 PERCENT	95	27	6.5	4.4	110	90	13	9	61		
CLARKSDALE																								
3 LM	51	34	1.10	44	3.7	81	21	7.3	5.6	3	2	6.1	100 PERCENT	103	33	6.7	4.8	90	70	30	24	59		
HOLLY SPRINGS																								
3 LM	51	35	1.11	46	4.1	78	22	8.5	4.4	2	2	6.7	90 PERCENT	104	32	6.9	5.0	110	80	21	17	65		
INDIANOLA																								
3 SLM	41	35	1.08	48	4.6	82	22	5.9	4.5	4	2	6.5	100 PERCENT	106	35	6.1	4.5	100	80	20	15	61		

1/ End breakage too high to spin 50s yarn. 44s spun and adjusted to equivalent of 50s

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns												
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint		Color Raw Stock		P & C Waste	Strength		Elongation	Appearance Index		Imprfect'ns		Spin. Potential				
No	Grade	Stple	32s	2.5% span	Unif.		Pct	In		Rdg	Mpsi	G/tex	Pct		Gra	Yel		No	Pct	Lbs	Ibs		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx
SOUTH CENTRAL AREA--(Continued)																										
MISSISSIPPI--(Continued)																										
SCOTT 3 LM				51	35	1.13	43	3.8	80	DELTAPINE 16		22	8.0	4.4	3	2	6.7	103	33	6.8	4.9	90	60	25	21	62
TUNICA				100 PERCENT																						
3 SLM				41	35	1.08	45	4.5	78	21	7.2	3.5	2	3	5.7	93	27	6.3	4.4	90	80	19	13	52		
TENNESSEE DYERSBURG 3 SLM				41	33	1.04	47	4.6	79	20	7.0	1.8	2	3	4.8	95	30	6.8	4.6	100	90	13	10	58		
GADSDEN 3 SLM				41	34	1.05	44	4.5	79	21	8.0	1.7	1	3	4.8	96	30	6.5	4.9	100	80	14	12	57		
MILLINGTON 3 LM				51	34	1.05	45	4.0	80	20	6.9	3.8	2	2	6.9	94	30	6.3	4.4	100	90	14	13	62		
SPRING CREEK 3 SLM				41	33	1.02	47	5.0	81	20	7.3	3.3	2	3	5.5	76	19 1/2	5.5	4.5	100	90	10	10	43		
SOUTHWEST AREA																										
CENTRAL TEXAS NAVASOTA 3 SLM SP				43	34	1.10	43	3.9	78	19	6.9	3.4	4	3	5.8	92	27	6.3	3.9	90	70	21	20	66		
NORTHWEST TEXAS O'DONNELL 2 MID LT SP				32	31	1.05	44	4.0	83	21	7.2	3.7	2	3	4.9 2/3	99	30	6.5	4.7	80	60	25	20	51		
ROPERVILLE 2 MID				31	32	1.02	46	3.7	84	22	7.1	2.5	1	3	4.0 2/3	106	32	6.8	4.8	90	70	22	15	58		
VERNON 1 SLM LT SP				42	32	1.04	45	4.4	86	22	6.6	3.4	3	4	6.1	97	27	6.4	4.2	90	80	18	17	49		
OKLAHOMA WEBBERS FALLS 2 SLM				41	36	1.18	47	4.6	80	22	8.3	3.7	2	2	4.9	108	35	6.9	5.2	100	90	14	13	78		
1/ End breakage too high to spin 50s yarn. 36s spun and adjusted to equivalent of 50's																										
2/ Cotton stuck to processing rolls																										

1/ End breakage too high to spin 50s yarn. 36s spun and adjusted to equivalent of 50's
2/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade		Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential	
	Name	Code		2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		22s or 27 tx
WEST																							
ARIZONA																							
3 MID		31	35	1.12	45	4.8	87	23	7.1	1.7	0	3	4.7	103	32	6.4	4.6	100	80	15	10	56	
STANFIELD																							
3 MID		31	34	1.08	43	4.5	84	23	7.1	3.5	0	3	5.7	97	30	6.4	5.0	90	80	16	13	46	
CALIFORNIA																							
3 SLM		41	36	1.13	46	3.6	92	25	6.1	2.8	3	3	5.2	119	41	6.1	4.4	80	60	26	18	71	
3 SLM		41	36	1.13	46	3.4	92	23	6.6	2.7	2	2	4.5	127	43	6.2	5.0	90	80	20	15	86	
3 SLM		41	36	1.14	48	3.8	96	26	6.0	3.3	1	2	4.7	131	46	6.4	4.8	90	70	17	13	89	
3 SLM		41	35	1.09	44	3.6	92	26	5.5	3.4	2	3	6.2	120	39	5.9	4.4	70	60	29	23	65	
3 MID		31	36	1.14	48	4.5	99	27	5.7	2.1	1	3	4.9	131	45	6.2	4.7	90	80	17	13	79	
STRATFORD																							
3 SLM		41	35	1.14	48	3.8	89	25	6.1	4.3	1	3	5.4	128	43	6.4	4.8	100	70	13	12	79	

1/ Cotton stuck to processing rolls

Table 4 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Combed Yarns									
Grade & Code		Stple	Array Length		Mike	Fiber Strength		Elon- gat'n 1/8" Gage	S.A. Non- Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns			
			UQL	CV		Zero Gage	1/8" Gage			Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx		
No			32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
WEST ARIZONA																							
PEORIA																							
1	3	44		1.49	30	4.0	106	PIMA S-4 34	8.0	4.0	3	5	7.1	17.6	100 PERCENT 72	40	5.6	4.9	130	120	1	0	
STANFIELD																							
1	4	44		1.50	30	4.1	104	PIMA S-4 35	7.4	4.1	4	5	7.8	17.1	100 PERCENT 72	38	5.7	5.0	130	120	1	1	
NEW MEXICO																							
LAS CRUCES																							
2	3	44		1.43	31	3.5	101	PIMA S-4 31	7.5	3.6	3	5	8.3	18.3	80 PERCENT 65	36	5.4	4.8	120	130	1	0	
WEST TEXAS																							
PECOS																							
3	3	44		1.39	31	3.7	101	PIMA S-4 32	7.4	2.5	4	6	7.1	18.1	100 PERCENT* 67	36	5.5	5.2	120	110	1	2	

* 100 percent selected for tests, less than 100 percent in the area

